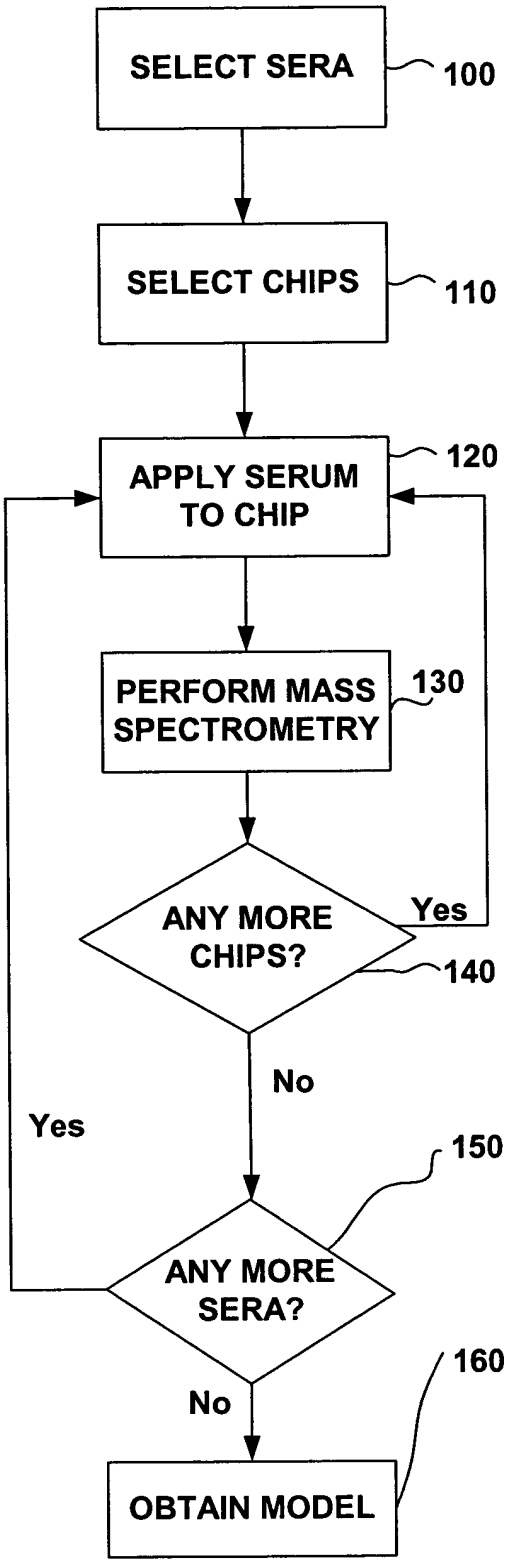
SELECT SERA
100
SELECT CHIPS
110
APPLY SERUM TO CHIP
120
PERFORM MASS SPECTROMETRY
130
ANY MORE CHIPS?
140
Yes
No
ANY MORE SERA?
150
Yes
No
OBTAIN MODEL
160

FIG. 1

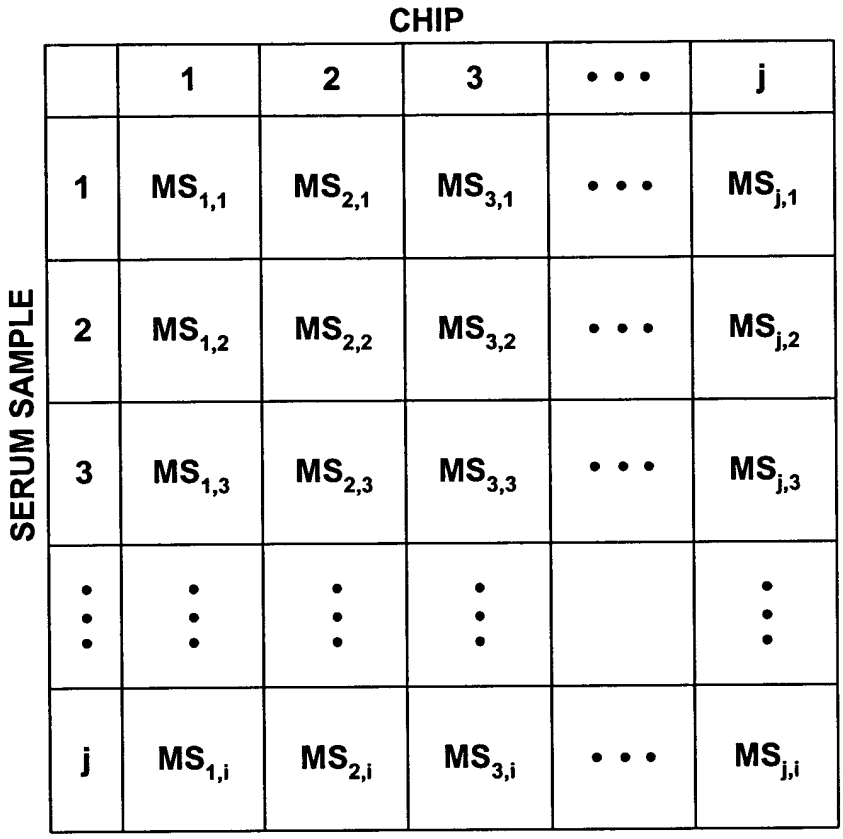
CHIP
SERUM SAMPLE
1
2
3
• • •
j
1
MS1,1
MS2,1
MS3,1
• • •
MSj,1
2
MS1,2
MS2,2
MS3,2
• • •
MSj,2
3
MS1,3
MS2,3
MS3,3
• • •
MSj,3
j
MS1,i
MS2,i
MS3,i
• • •
MSj,i

FIG. 2

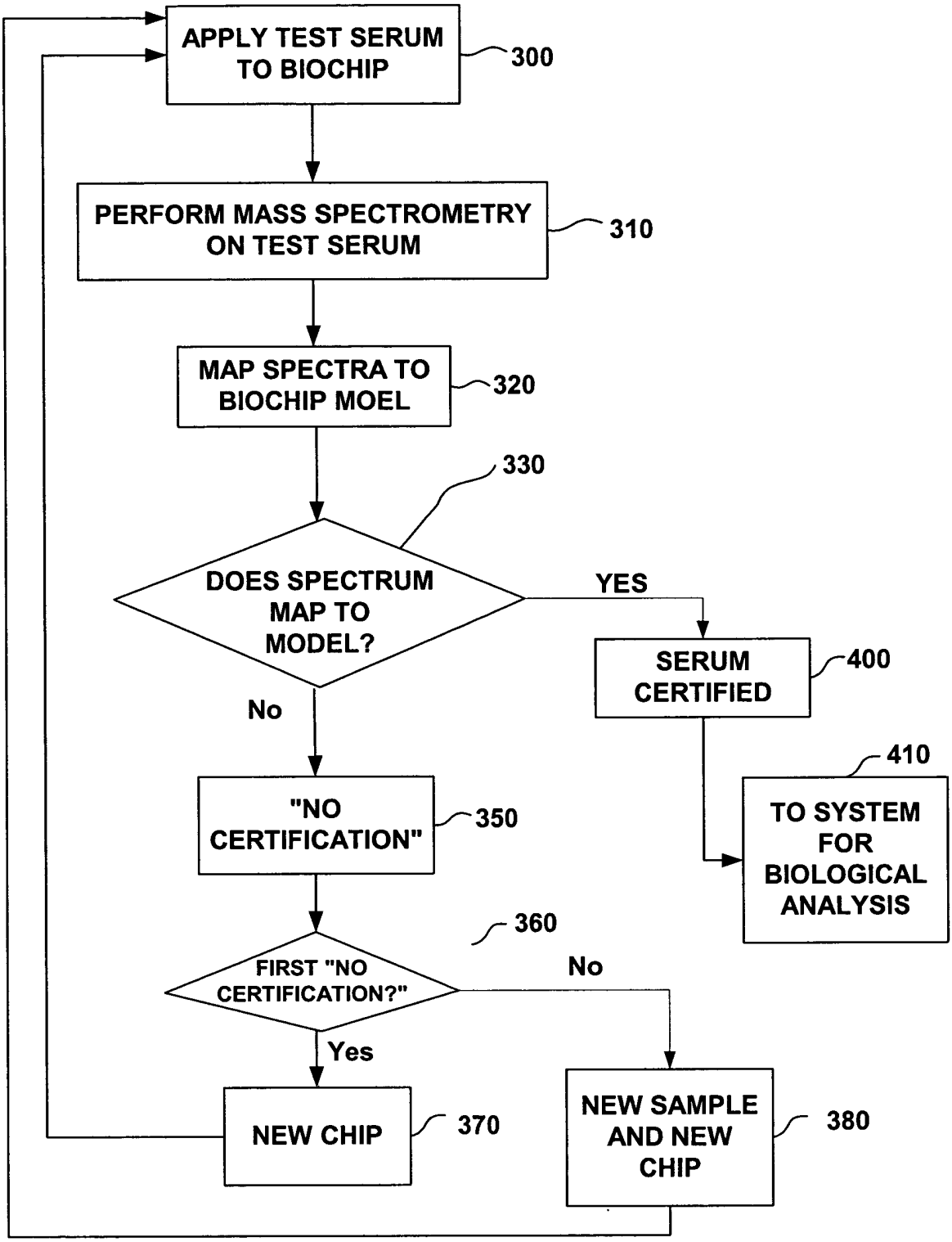
APPLY TEST SERUM TO BIOCHIP
300
PERFORM MASS SPECTROMETRY ON TEST SERUM
310
MAP SPECTRA TO BIOCHIP MOEL
320
330
DOES SPECTRUM MAP TO MODEL?
YES
No
SERUM CERTIFIED
400
410
TO SYSTEM FOR BIOLOGICAL ANALYSIS
"NO CERTIFICATION"
350
360
FIRST "NO CERTIFICATION?"
No
Yes
NEW CHIP
370
NEW SAMPLE AND NEW CHIP
380

FIG. 3

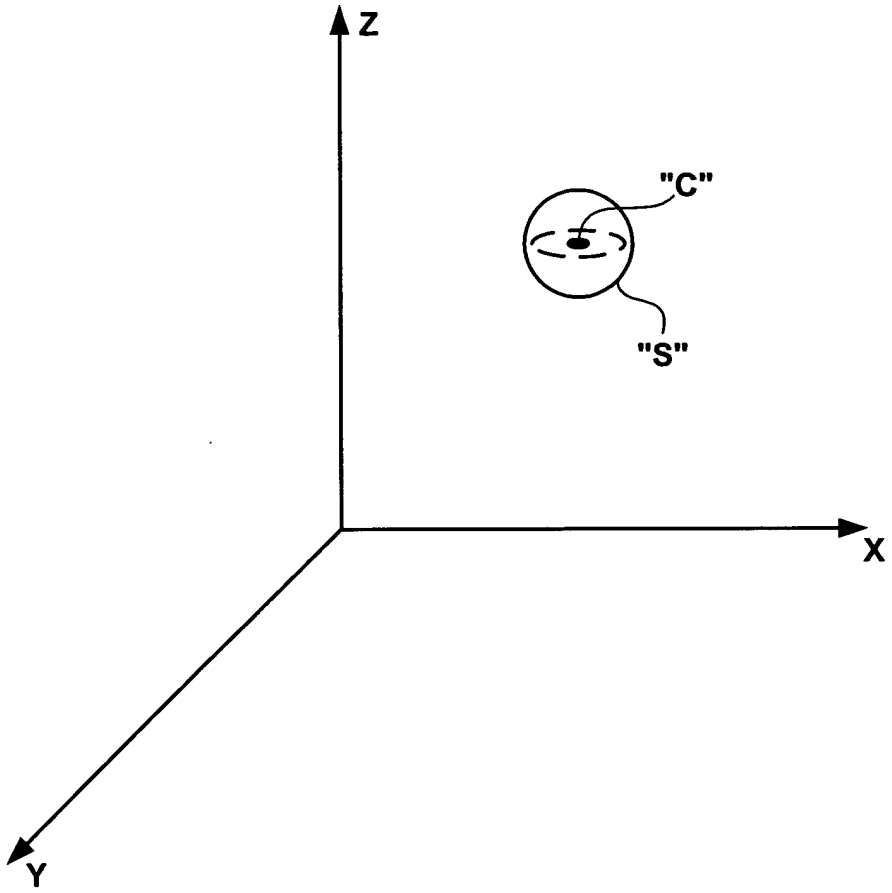

FIG. 4

					m/z values									
Node	**Count**	**State**	**StateSum**	**Error**	743.574	3872.046	2506.954	3012.083	2404.824	1146.171	1943.946	1531.685	5918.59	727.3972
0	26	1	26	0	0.0346	0.9975	0.3242	0.2673	0.3105	0.0184	0.1387	0.2726	0.5013	0.1472
1	89	0	2	2	0.0179	0.0829	0.0496	0.0369	0.0512	0.0097	0.0669	0.1422	1	0.0228
2	**108**	**1**	**104**	**4**	**0.0242**	**1**	**0.0922**	**0.0684**	**0.0773**	**0.1016**	**0.0520**	**0.1295**	**0.1814**	**0.1078**
3	23	0	0	0	0.0119	0.2537	0.0383	0.0352	0.0380	0.0149	0.3952	0.9198	0.8448	0.0457
4	6	0	0	0	0.0056	0.1851	0.0078	0.0123	0.0090	0.0269	0.9939	0.4465	0.5844	0.0117
5	1	1	1	0	0.0353	0.6777	0.1028	0.2074	0.0640	0	0.0936	0.4122	0.2605	1
6	2	1	2	0	0.3013	0.8013	0.5506	0.6894	0.8239	0.0709	0.2725	0.9569	0.8025	0.6541
7	1	0	0	0	0.1529	0	0	0	0	0.1529	0	0	0	1

Testing

Sensitivity 100%

Specificity 99%

Validation

Sensitivity 99%

Specificity 98%

FIG. 5

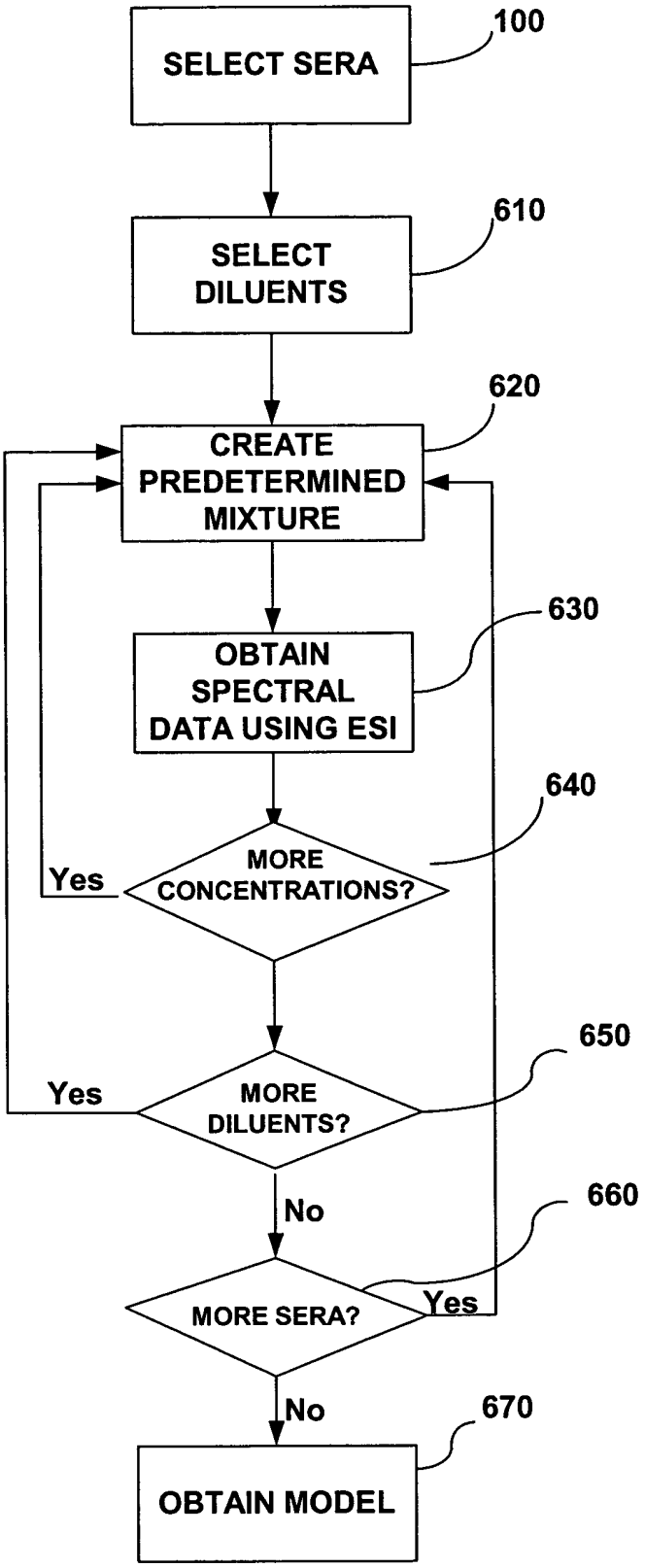
SELECT SERA
100
SELECT DILUENTS
610
CREATE PREDETERMINED MIXTURE
620
OBTAIN SPECTRAL DATA USING ESI
630
MORE CONCENTRATIONS?
640
Yes
MORE DILUENTS?
650
Yes
No
MORE SERA?
660
Yes
No
OBTAIN MODEL
670

FIG. 6